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(पहला पुनरीक्षण)

Indian Standard

WAX-EMULSION SOLE LEATHER POLISH — SPECIFICATION

(First Revision)

UDC 665·921 : 675 ·142 : 685-312·12

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

March 1994

Price Group 3

Polishes Sectional Committee, CHD 023

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Polish Sectional Committee had been approved by the Chemical Divisional Council.

There are two types of sole leather polishes, which are generally used in footwear industry of India. One is based on organic solvents and the other is water based. The former is covered in IS 4779 : 1985.

The wax-emulsion sole leather polish is generally prepared by emulsifying the high-lustre and hard vegetable waxes with soap or sulphonated products or any other emulsifying agent. The coating of this polish on the scoured leather sole after drying renders gloss or lustre by brushing. Some manufacturers are using a tinge of colour in the emulsion to make the colour placing or attractive like the natural shade or sole leather or most nearly matching that shade.

The standard was first published in 1970 and in this revision two additional requirements, namely, toxicity and keeping quality have been included keeping in mind the possible health hazards from the material containing toxic substances and shelf life period for ensuring the quality of the product on storage.

The composition of Technical Committee responsible for formulation of this standard is given in Annex J.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of specified value in this standard.

Indian Standard

WAX-EMULSION SOLE LEATHER POLISH — SPECIFICATION

(First Revision)

1 SCOPE

1.1 This standard prescribes requirements and methods of sampling and test for wax-emulsion sole leather polish, neutral, tinted or coloured suitable for application to soles and edges of leather footwear as finishes.

2 REFERENCES

The Indian Standards listed below are necessary adjuncts to this standard:

IS No.	*Title*
1070 : 1992	Reagent grade water (*third revision*)
4905 : 1968	Methods of random sampling
5741 : 1970	Method of determination of *p*H
8171 : 1992	Glossary of terms relating to polishes and related materials (*second revision*)

3 TERMINOLOGY

3.1 For the purpose of this standard, the definitions given in IS 8171 : 1992 and the following shall apply.

3.1.1 *Ambient Temperature*

It is the temperature between 21 and 38°C.

4 REQUIREMENTS

4.1 Description

The material shall be manufactured from hard/bleached waxes and resins emulsified with a suitable emulsifying agent. When applied to soles and edges of footwear, it shall produce a film of sufficient hardness.

4.1.1 The material shall not show any separation of its ingredients and shall be free flowing and free from gritty matters.

4.2 Appearance and Colour

The material shall be a stable emulsion, viscous liquid or an aqueous colloidal dispersion of waxes/resins and other suitable materials required for the purpose. Its colour shall have close match to that of sole leather itself or any other colour as agreed to between the purchaser and the supplier.

4.3 Odour

The material shall not be of disagreeable odour.

4.4 Sediment

The material shall not contain sediment more than 4 percent, by mass, when tested as prescribed in Annex A.

4.5 Stability

The material shall exhibit no gelling, creaming or freezing when kept in closed containers at any temperature between 10 and 50°C for a period of 12 hours.

4.6 Applicability

The material shall be amenable to uniform spreading when applied by sponge (natural) or very soft brush such as camel hair brush or by any other suitable means.

4.6.1 After application the material shall dry imparting gloss to the leather surface within 15 minutes or as agreed to between the purchaser and the supplier.

4.6.2 The dried surface shall be non-tacky when tested in accordance with the method prescribed in Annex B.

4.7 Flexibility of the Dried Film

The film of polish after application and drying shall be flexible and shall not crack for 6 months when the footwear is stored in cardboard containers at ambient temperature.

4.8 Organic Solvent and Non-Drying Oils

The material shall not contain any organic solvent insoluble in later and non-drying oil and shall pass the test prescribed in Annex C.

4.9 *p*H Value

The *p*H value of the material shall be between 9·0 and 11·0, when tested with suitable *p*H meter using glass electrodes at 27 ± 2°C (*see* IS 5741 : 1970).

4.10 Water Resistance

The film (about 1 mm thick) of polish applied on a leather surface and dried for 48 hours, shall not be affected when kept in contact with distilled water at about 27 ± 2°C for 10 minutes. The film shall also not crumble when moped 4 times with a rag soaked to contain 50 percent water.

4.11 Toxicity

It shall have no adverse effect on the health of personnel using the material. A certificate to this effect shall be provided by the manufacturer.

4.12 Keeping Quality

The material shall comply with requirements of this standard for atleast a period of one year from the date of manufacture when stored in its original sealed containers under cover at ambient temperature.

4.13 The material shall also comply with the requirements given in Table 1.

Table 1 Requirements for Wax-Emulsion Sole Leather Polish

(*Clause* 4.13)

Sl No.	Characteristic	Requirement	Method of Test (Ref to Appendix)
(1)	(2)	(3)	(4)
i)	Total solid content of the material, percent by mass	18 to 28	D
ii)	Melting point of the total solid in °C, *Min*	70	E
iii)	Ash content of the total solid, percent by mass, *Max*	6	F
iv)	Soluble iron content	To pass the test	G

5 PACKING AND MARKING

5.1 Packing

The material shall be packed in glass bottles, tin containers or other containers as agreed to between the purchaser and the supplier.

5.2 Marking

The following information shall be clearly indicated on the outside of the containers:

a) Indication of the source of manufacture;

b) Net mass of the material;

c) The words 'WAX EMULSION SOLE LEATHER POLISH', and

d) Batch number, date of manufacture and date of expiry.

NOTE — Any other marking required under Weights and Measures (Packaged Commodities) Regulations 1977, may also be complied with.

5.2.1 The use of the Standard Mark is governed by the provisions of Bureau of Indian Standards Act, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

6 SAMPLING AND CRITERIA FOR CONFORMITY

6.1 The method of drawing representative samples for tests and the criteria for conformity shall be as prescribed in Annex H.

ANNEX A

(*Clause* 4.4)

DETERMINATION OF SEDIMENT

A-1 PROCEDURE

A-1.1 Shake the material well to get a homogeneous mixture. Take accurately weighed 15 g of the material and filter through a sintered glass crucible or a filter paper with proper stirring. Dry the residue to constant weight at 100 ± 5°C. Alternatively centrifuge 15 g of sample for 15 minutes at approximately 2 000 revolutions per minute. Decant all the supernatant layer and transfer the sediment to a weighed filter paper or crucible. Dry to constant mass at 100 ± 5°C. Express results in percent mass per volume basis.

ANNEX B

(*Clause* 4.6.2)

DETERMINATION OF TACKINESS

B-1 PROCEDURE

B-1.1 Apply the material on the surface of sole leather, free from grit and dust, so that there is not more than 1 g solid of the polish per 10 cm of the surface after application and drying. Examine the polished sole leather for gloss visually. Place a piece of cotton cloth over the surface and keep over it a weight of 500 g for half an hour. The piece of cloth shall not stick or be tacky.

ANNEX C

(*Clause* 4.8)

DETERMINATION OF ORGANIC SOLVENT AND NON-DRYING OILS

C-1 PROCEDURE

C-1.1 Weigh approximately 500 g of the material in a distillation flask of one litre capacity and distill off to the last drop under vacuum. Transfer the distillate to a separatory funnel or a crow receiver and observe the separation of layers, if any. Also observe the flask for residue, if any. There shall neither be any separation of layers in the distillate nor any residue left in the flask.

ANNEX D

[*Table* 1, *Item* (i)]

DETERMINATION OF TOTAL SOLID CONTENT

D-1 PROCEDURE

D-1.1 Weigh about 15 g oJ the well mixed material in a stainless steel, glass or porcelain container of not more than 4 cm diameter with a lid. Place the container on a steam-bath without the lid till the bulk of volatile matter is evaporated off. Dry the residue at 100 ± 5°C in an oven for 4 hours or more till constant mass.

D-2 CALCULATION

D-2.1 Total solid content $= 100 \times \frac{M_2}{M_1}$

where

M_2 = mass, in g, of the residue after drying; and

M_1 = mass, in g, of the material taken for the test.

ANNEX E

[*Table* 1, *Item* (ii)]

DETERMINATION OF MELTING POINT OF TOTAL SOLID

E-1 PROCEDURE

E-1.1 Fill a capillary tube with a few milligrams of the total solid as obtained in **D-1.1** so that a column of the material about 5 mm high is obtained. Pack the material by tapping lighly on a rigid surface and determine the melting point in any standard melting point apparatus with a thermometer graduated at each 0·1°C.

ANNEX F

[*Table* 1, *Item* (iii)]

DETERMINATION OF ASH CONTENT OF TOTAL SOLID

F-1 PROCEDURE

F-1.1 Weigh about 2 g of the residue obtained in **D-1.1** in a tared platinum, nickel or stainless steel crucible (35 to 40 ml capacity). Place the crucible in a furnace and ash slowly. Raise the temperature of the furnace from red hot to 850-900°C and heat for two hours or until the final ash or the inner side of the crucible has no traces of carbon. Cool in a desicator and weigh.

F-2 CALCULATION

F-2.1 Ash content of total solid, percent by mass $= 100 \times \frac{M_2}{M_1}$

where

M_2 = mass, in g, of ash; and

M_1 = mass, in g, of total solid.

ANNEX G

[*Table* 1, *Item* (iv)]

TEST FOR SOLUBLE IRON

G-1 PROCEDURE

G-1.1 Filter about 10 g of polish through a fine filter paper and acidify the filterate with dilute hydrochloric acid. Heat to boiling, cool and filter, if necessary. Add about 100 mg of potassium thiocyanate in butanol. Shake well. There shall be no red colouration in the butanol layer.

ANNEX H

(*Clause* 6.1)

SAMPLING OF WAX-EMULSION SOLE LEATHER POLISH

H-1.1 GENERAL REQUIREMENTS OF SAMPLING

H-1.0 In drawing, preparing, storing and handling test samples, the following precautions and directions shall be observed.

H-1.1 Samples shall be taken in a protected place not exposed to damp air, dust or soot.

H-1.2 The sampling instrument shall be clean and dry when used.

H-1.3 Precautions shall be taken to protect the samples, the material being sampled, the sampling instrument and the containers for samples from adventitious contamination.

H-1.4 Each samples shall be placed in clean, dry and air tight glass or other suitable containers, on which the material has no action.

H-1.5 The sample container shall be of such a size that they are almost completely filled by the sample.

H-1.6 The sample container shall be sealed airtight after filling and marked with full details of sampling, the date of sampling and the year of manufacture of the material.

H-1.7 Samples shall be stored in such a manner that the temperature of material does not vary unduly from the normal temperature.

H-2 SCALE OF SAMPLING

H-2.0 To determine conformity of a consignment of wax-emulsion sole leather polish to this specification, samples shall be selected so as to be representative of the whole consignment. In the absence of any prior agreement between the purchaser and the supplier on the mode of sampling end determining the criteria of conformity, the following sampling and inspection scheme is recommended to serve as a guide.

H-2.1 Lot

All the containers in a single consignment of the material drawn from the same batch of manufacture and belonging to the same size shall constitute a lot. If a consignment is declared or known to consist of different batches of manufacture or of different sizes of containers, the containers belonging to the same batch and size be grouped together and each such group shall constitute a separate lot.

H-2.1.1 Samples shall be tested for each lot for ascertaining the conformity of the material to the requirements of the specification.

H-2.2 The number (*n*) of containers to be chosen from the lot shall depend upon the size of the lot and shall be in accordance with col 1 and 2 of Table 2.

Table 2 Number of Containers to be Selected for Sampling

(*Clause* H-2.2)

Sl No.	Lot Size *N*	No. of Containers to be Chosen *n*
(1)	(2)	(3)
1	Up to 500	10
2	501 to 1 000	15
3	1 001 and above	20

H-2.3 These containers shall be chosen at random from the lot; in order to ensure the randomness of selection, some random number table as agreed to between the purchaser and the supplier shall be used. IS 4905 : 1968 may be referred to for random selection.

H-3 PREPARATION OF COMPOSITE SAMPLE

H-3.1 Shake well each of the containers selected in **H-2.2** and test for sediment content. Pour out a quantity of polish such that the total quantity obtained from all the containers provides material (about 1 000 g) sufficient for all other tests. Thoroughly mix the material drawn from all the selected containers so as to form the composite sample.

H-4 NUMBER OF TESTS AND CRITERION FOR CONFORMITY

H-4.1 Test for the determination of sediment shall be done on the original containers from which no sample has been drawn.

H-4.2 Tests for other characteristics shall be done on the composite sample.

H-4.3 The lot shall be declared as conforming to the specification, if the test results satisfy the corresponding requirements laid down in this specification.

ANNEX J

(*Foreword*)

COMMITTEE COMPOSITION

Polishes Sectional Committee, CHD 023

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This Indian Standard has been developed from Doc : No. CHD 023 (0580)

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Printed at Paragon Enterprises, Delhi, India